



# NASA Goddard Space Weather Research Center



**Addressing the space weather needs of NASA's robotic missions through experimental research forecasts, notification, analysis, and education. Bringing space weather knowledge to the public.**

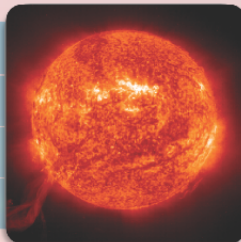
**NASA Goddard Space Weather Research Center** provides critical space weather information for NASA Robotic Missions. Since the needs of different NASA robotic missions are unique, we provide a broad range of tools, products, and services to meet the dynamic requirements of our customers. Providing accurate real-time forecasting of both large-scale and local space environments - and their probable impacts for missions is an essential component.

Assistance in Spacecraft Anomaly Resolution

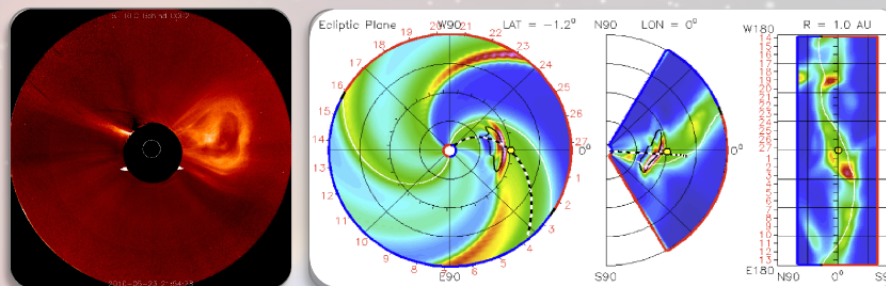
Weekly Space Weather Research Analysis

Special Space Weather Event Analysis

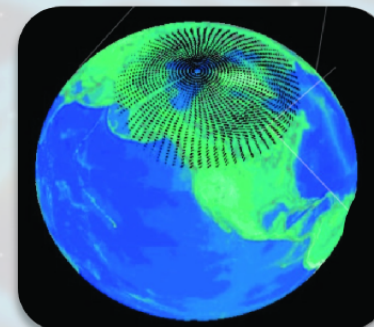
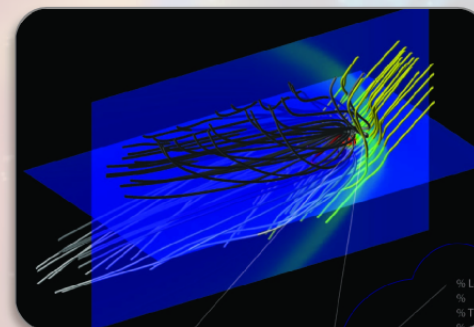
Space Weather Support For NASA Customers



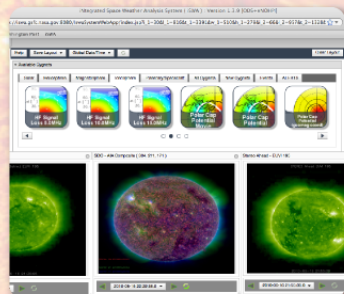
**Collaboration with the US Air Force Weather Agency:** providing state-of-the-art simulations and forecasts of coronal mass ejections, also called "space hurricanes." All simulations are carried out in our dedicated supercomputing facility at GSFC's Community Coordinated Modeling Center (CCMC).



**Solar Shield System:** providing information about space weather storm impacts on the North American power transmission system. Work is carried out in collaboration with the Electric Power Research Institute.



**Integrated Space Weather Analysis System (iSWA):** a user-configurable web-based system for analyzing space weather. The system is publicly available at <http://iswa.gsfc.nasa.gov>.



## Over 200 Products



**NASA Space Weather App:** iSWA data products accessible via iPhone and Android app. iPhone App available on iTunes. Android available on Google Play.



Further collaborations include private space weather industry, the Space Radiation Analysis Group at Johnson Space Center, the Radiation Effects and Analysis Group and Robotic System Protection Office at Goddard Space Flight Center, NOAA Space Weather Prediction Center, and the international partners.

This work is primarily supported by the Heliophysics Division at NASA Headquarters. Additional support comes from the National Science Foundation. Initial iSWA development was supported by the Office of Chief Engineer at NASA Headquarters.

**Space Weather Lab** <http://swl.gsfc.nasa.gov>  
**SWRC** <http://swrc.gsfc.nasa.gov>

**CCMC** <http://ccmc.gsfc.nasa.gov>  
**iSWA** <http://iswa.gsfc.nasa.gov>





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### Effects of Space Weather

Technology continues to play an ever-increasing role in our society and the potential for space weather to impact our daily lives is also growing. The technological infrastructure, including the power grid and satellites used for communication and navigation, is vulnerable to space weather effects caused by the Sun's variability. Awareness of the issue is on the rise both nationally and globally.

### Public Education

We are committed to bringing our space weather knowledge to the public. Visit our products and services page to get access to real-time space weather information, access our space weather information from our website.

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